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The Coastal Plainer

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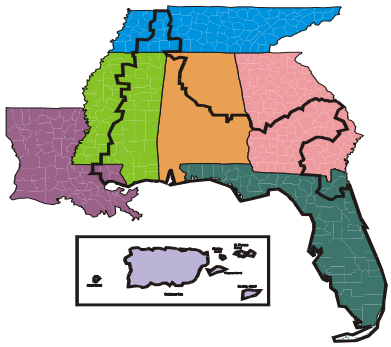
Points from Puckett

by William E. Puckett, SSS/MO-15 Team Leader, Auburn, AL

The first MLRA Project Office in Alabama will open January 28, 2001, in Huntsville, Alabama. The project office will be located on campus at Alabama A&M University. Douglas Clendenon was selected as the project leader. Doug is currently the project leader for Henry and Benton Counties in Tennessee. We are looking forward to getting Doug in place and starting down the path of MLRA updates. The MLRA Project Office will be located in the newly established MO 18.

MLRA Soil Survey Region #15



Earlier this fall, we submitted proposed locations for MLRA Project Offices within MO 15 (Figure 1). The State Soil Scientists and partners proposed 13 offices within MO 15. The Soil Survey Division is compiling this information nationally and should have a composite map for the country soon. Stay tuned for more information on these developments over the next year.

A disappointment—the MO 15 Soils Workshop that was planned for Gainesville, FL, in March was canceled due to budget constraints. Hopefully, the workshop will be rescheduled during fiscal year 2002. On a positive note, this will put MO's 14 and 15 on alternating years in regards to workshops. This should help states with their travel and training budgets.

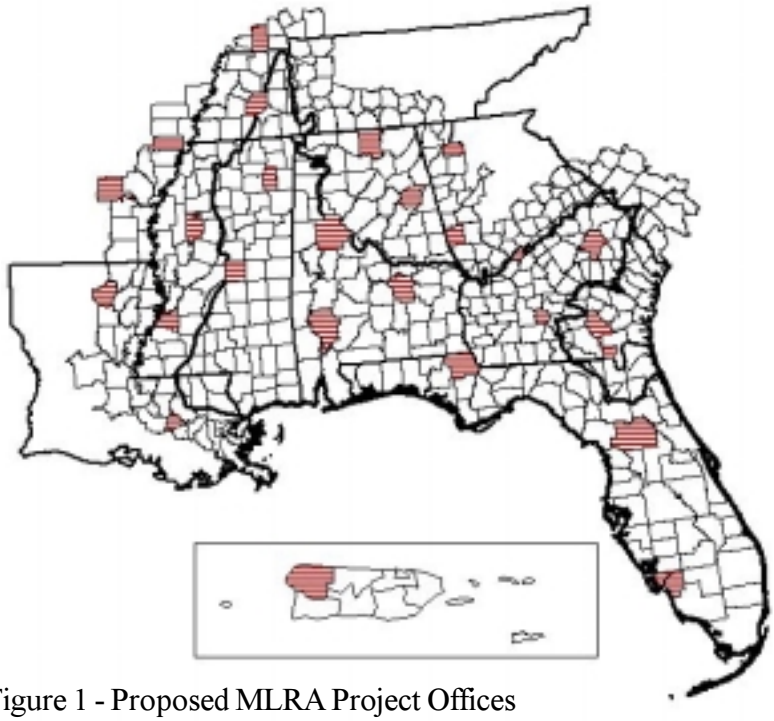


Figure 1 - Proposed MLRA Project Offices

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Craig Ditzler is the Winter issue guest author. Craig is the director of the Soil Quality Institute in Ames, Iowa. Prior to that, he was the MO-14 team leader and State Soil Scientist in North Carolina. He has had field experience in the states of Rhode Island, Wisconsin, Tennessee, and Florida. He has a BS from the University of Rhode Island, an MS and a Ph.D. from the University of Nebraska. jab

Soil Quality Institute Update

by Craig Ditzler, Director, Soil Quality Institute

Greetings from the Soil Quality Institute! Here are some things going on with the SQI that should be of interest to you.

Recent Products: Demand for the Soil Biology Primer was so large that we ran out of stock very quickly last year. The Primer is being reprinted through a partnership with SWCS and can be ordered at www.swcs.org. Price varies by order size. Soil Quality Urban Technical Notes - 3 tech notes (Erosion and Sedimentation, Compaction, and Heavy Metals) have been distributed. We'd like to hear your suggestions for additional topics. Soil Quality Resource Concerns: Hydrophobicity - This fact sheet was produced in the aftermath of the Los Alamos, NM fires to help folks better understand this unique problem in fire-affected soils. The Soil Quality Test Kit Guide has been translated into Spanish by the National Institute of Agricultural Technology in Argentina. It can be accessed on our web site.

New Products Coming: SQI is working on several new products to be released over the next few months. Guidelines for Soil Quality Assessment in Conservation Planning - This document is targeted to field office employees and shows how to integrate soil quality assessment and enhancement in the resource planning process. Rangeland Soil Quality Information Sheets - A series of individual fact sheets produced in cooperation with ARS and BLM covering soil quality issues on rangelands. Soil Organic Matter Sampling Procedures - This document will discuss issues and concerns involved with sampling soils in the context of carbon sequestration projects and provide instructions for several sampling procedures.

Training: SQI has assisted Joel Brown (NRCS Global Change Action team) and NACD to develop and teach the Partnership Global Change Information and Education Workshop - This 2 day workshop is designed to help the conservation partnership leadership in each state better understand and respond to the issues involved in global change. Soil Quality Assessment and Application for Field Staff - SQI and NEDC will teach at least one session of this new course this year. We are also participating in numerous workshops, field days, and conferences as requested.

New Technology: Some of the new things we're looking at include: CQESTR model - This PC-based model, developed by ARS, is designed for predicting

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QSI staff. Top row: Cathy Seybold, Craig Ditzler, Mike Hubbs Bottom Row: Lee Norfleet, Ann Lewandowski, Arlene Tugel

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changes in soil organic carbon. SQI is participating in a Beta test. O.M. field test procedure - We are using a set of known soil samples representing a cross section of U.S. soils to evaluate a new field test procedure developed by Dr. Ray Weil (Univ. MD) using potassium permanganate to estimate organic matter content. Expect a tech note and possible inclusion in the SQ Field Test Kit if successful. Soil Condition Index Interpretation - We are correlating SCI values with long term research results from several parts of the country. We plan to develop a technical note to assist field staffs in interpreting SCI results. Dynamic Soil Properties - SQI is working with NSSC and ARS to explore ways to include dynamic soil property data in soil surveys.

That gives you a quick look at some of what we're doing. Visit our web site at http://www.statlab.iastate.edu/survey/SQI/ for more information.

Only he who keeps his eye fixed on the far horizon will find his right road.

Dag Hammarskjold

The First 100 Days…

by Mike Lilly, State Soil Scientist, Jackson, MS

Well, as most of you know by now, I accepted the position of State Soil Scientist in Mississippi. My beginning date was September 10, 2000. Before I venture into my activities and goals, let me tell you a little about myself.

I was raised on a small grain and livestock farm in southern Illinois. I graduated from Southern Illinois University with a degree in Plant and Soil Science. Practically all of my field experience has been in the Midwest (please don't hold that against me). I worked primarily with loess, glacial till, and Mississippi River alluvium. There was the odd lacustrine and residuum parent material also. Additionally, I set up a couple of series in areas that had been reclaimed from surface mining activities. In 1990, I went on a detail to Chesterfield County, South Carolina. Although most of my mapping there was in the Sandhills, I did get my first experience with the Coastal Plain. What a difference from what I had been used to in the Midwest! This stuff is extremely variable. I have the utmost respect for persons that map in the Coastal Plain.

Since entering this position, most of my time has been spent on administrative items (performance plans, contracts, budgets, etc.). In other words, I haven't worked on very much "soily" stuff. We did spend a week installing another soil climate monitoring site in MO-16.

I am a strong supporter of the Major Land Resource Area concept of conducting soil surveys. Political boundaries have impacted our science for far too long. Having said that, however, we must also realize that many of our customers are limited by political boundaries. It is important that we work with these customers and educate them on the MLRA approach to conducting soil surveys. It is also important to be sensitive to their needs. This can be a delicate balancing act, but is one of the goals that I hope to achieve.

Another opportunity I see is the implementation of the "MLRA Project Office" concept. I believe this concept is the way to go and I strongly support it. Other parts of the country have implemented this approach and it seems to be working well. One advantage is it provides more stability to the soil scientist by requiring less frequent relocation of duty stations. It also provides for a more seamless soil survey in an area. Finally, it was the original intent of reorganization to include these offices.

Since the establishment of the MO offices, we have always received prompt and courteous service from the MO-15 staff. This is very much appreciated and I look forward to a great cooperative relationship.

Private-Sector Soil Surveys in Georgia

Larry T. West, Associate Professor, University of Georgia, Athens, GA

In February 2000, the Georgia Department of Human Resources (DHR) instituted new rules for on-site wastewater management systems. Three parts of these rules have a direct impact on private sector soil scientists working in Georgia.

1) **All lots and subdivisions must have a detailed soil survey before an on-site permit for wastewater management is issued.**

This requirement has created an enormous opportunity for soil classifiers in the state. In 1999, more that 75,000 permits for on-site systems were issued in Georgia; the number is not expected to decline in the near future. There are 65 certified classifiers working in Georgia. Simple math tells you that there are more sites to be evaluated than there are soil classifiers to do the work.

2) **The DHR developed standards for detailed soil surveys.**

The DHR standards grew from on-site standards developed by a soil scientist organization in Georgia. Prior to adoption of the DHR standards, a detailed soil survey was whatever the soil scientist decided it should be. This lead to variability in map scale, frequency and depth of observation, and mapping techniques. In many cases, lack of map detail and the quality of mapping resulted in lots being shown with suitable soils on the map. In reality, because of line misplacement or failure to recognized small landscape components, soils on the lot were unsuitable for an on-site system. DHR mapping standards include: minimum scale of 1" = 100' (1:1,200), minimum of one soil observation to a depth of 72 inches per ¼ acre, and location of each observation on the finished map to within 15 feet of its true location on the ground. In addition, depth to bedrock, depth to the seasonal high water table, and estimated percolation rate specific to the site must be defined for each map unit. Vegetation patterns, hillslope relationships, and other landscape characteristics are still invaluable tools for mapping at this scale, but the new standards ensure that minor soils on a landscape that may comprise most of a small lot are recognized and accurately represented on the map.

3) **Rules for certification were set up.**

The DHR requirements for soil classifier certification (if you are not a professional engineer or registered geologist) are based on the NRCS education requirements for soil scientist classification, i.e. B.S. in agronomy, soil science, or related field and 15 semester hours of courses in soil science. Georgia certification requirements also include one course in soil morphology, genesis, and classification. Other requirements include a minimum of four years' experience mapping, classifying, and interpreting soils in the field, successful completion of a written examination administered by the DHR Soil Classifiers Certification Board, and errors and omissions insurance. New graduates can be certified as a Soil Classifier in Training after six months' work experience if they meet the education requirements and successfully pass the examination.

Two facts are evident. There is great demand for soil evaluations in Georgia, and soil scientists will continue to be recognized as a group of professionals qualified to make these evaluations.

The effect

The DHR recognized the potential shortage of soil classifiers early and included provision for local DHR envi-

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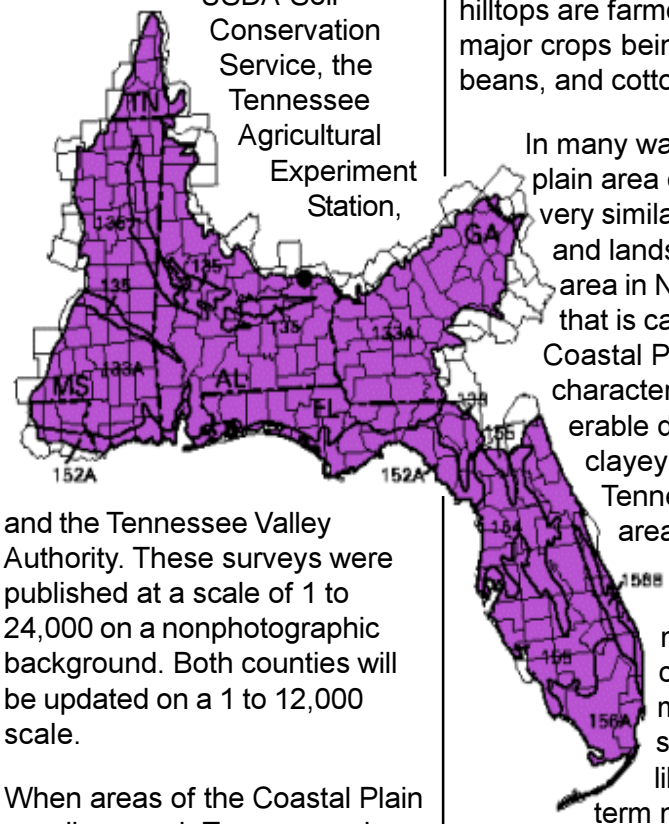
ronmentalists in the on-site system regulations. The environmentalist must have the adequate experience and pass a written examination in order to document proficiency in the basics of soil morphology and interpretation. In rapidly growing areas of the state, however, the environmentalists' inspection workload prohibits their making soil evaluations. Thus, the shortage or perceived shortage of soil classifiers lead to legislative action that included professional engineers and registered geologists in the definition of soil classifiers certified to make site evaluations for on-site systems.

While this is a slap in the face to the professions of soil classification and soil science, time will tell how many engineers and geologists will actually make, or attempt to make, soil evaluations and what impact this will have on soil evaluations for on-site systems in Georgia. Regardless of the criteria used to recognize soil classifiers, soil evaluations for on-site systems must still meet the standards outlined above in addition to National Cooperative Soil Survey Standards. As with any new set of regulations, there are and will continue to be bumps in the road. Two facts are evident, however. There is great demand for soil evaluations in Georgia, and soil scientists will continue to be recognized as a group of professionals qualified to make these evaluations.

Coastal Plain in Tennessee?

by Darwin Newton, Assistant State Conservationist for Soil Resources, Nashville, TN

Five years following the reorganization of correlation responsibility by MO offices, Tennessee is finally entering into work in MO-15. We are beginning the updates of two county surveys, Benton-1953 and Henry-1958. Both surveys were mapped and published cooperatively by the USDA-Soil Conservation Service, the Tennessee Agricultural Experiment Station,



and the Tennessee Valley Authority. These surveys were published at a scale of 1 to 24,000 on a nonphotographic background. Both counties will be updated on a 1 to 12,000 scale.

When areas of the Coastal Plain are discussed, Tennessee does not readily come to mind as a state with a Major Land Resource Area where the soils formed from coastal plain sediments. The Coastal Plain soils are, however, in Tennessee and are located west of the Tennessee River going from south to north from the Alabama-Tennessee state line to the Kentucky border. This area (approximately 3 million acres) is characterized by a hilly to rolling highly dissected landscape. Soils in the western portion of the area are sandy coastal plain sediments covered by 2 to 3 feet of loess. Areas in the central and eastern portion of the area are generally clayey soils from coastal plain sediments. Because of the high degree of dissection, a large portion of the coastal plain area is wooded. Rolling areas on hilltops are farmed with the major crops being corn, soybeans, and cotton.

In many ways, the coastal plain area of Tennessee is very similar in elevation and landscape to the area in North Carolina that is called the Upper Coastal Plain. This is characterized by considerable dissection and clayey soils as well. In Tennessee there are areas that have soils with reticulate mottling of some coastal plain material that sure looks a lot like "plinthite"—a term not too commonly used in Tennessee.

We are looking forward to beginning the update of these counties and having a closer working relationship with the staff at MO-15.

DRG-Tools for Digital Topos

by Rick Zellmer, GIS Specialist, Auburn, AL

Topographic maps are displayed as Digital Raster Graphics (DRGs) in most field offices. DRGs are viewable with ArcView. However, because DRGs are an image file, they cannot be used on top of a digital orthophoto, which is also an image. DRG-Tools to the rescue.

DRG-Tools is an ArcView script that can be downloaded from the Environmental Systems Research Institute (ESRI) web site. This script provides utilities to edge match DRGs, toggle colors on and off, and isolate map features such as hydrology. With DRG-Tools, features of the topographic image can be isolated while the rest of the map is made transparent. By making parts of the DRG transparent, desired features can be overlain on orthophotos or other base maps.

To download DRG-Tools, go to http://www.esri.com, select AcrScripts from the list on the left-hand side, and then search "By Keyword" for DRG. Several scripts will be listed. Scroll down to DRG-Tools and double click on the script name. Follow the instructions on the screen to download the file. An installation text file is included in the download zip file. Before using DRGs with other GIS data, make sure that the your data is compatible. DRGs can be referenced to either the North American Datum of 1927 or 1983; most, if not all, of the orthophotos are referenced to the North American Datum of 1983.

Make 2001 a good Year!

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